



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

99-RU-0213

Mr. M. J. Bullock, Vice President
TWRS General Manager
BNFL Inc.
Richland, Washington 99352

Dear Mr. Bullock:

PERSONNEL TRAINING AND QUALIFICATION INSPECTION REPORT, IR-99-001

On March 1 through March 4, 1999, the Office of Radiological, Nuclear, and Process Safety Regulation of TWRS-P Contractors (Regulatory Unit) completed an inspection of the personnel training and qualification program at your facility.

The inspectors identified three findings, documented in the Notice of Finding (Enclosure 1). The findings resulted from the inspectors identifying that several training related commitments in your Quality Assurance Program and Implementing Plan (QAPIP) were not being properly implemented. Specifically, your Training and Development Plan did not contain guidance or a mechanism for line management (first-line supervisors) to designate position specific training requirements in your training program, trainers for the two courses conducted during the inspection period were not deemed by your training department to be qualified to train, and your quality assurance orientation training did not adequately cover the elements of your QAPIP. These findings are a concern to us because they represent weaknesses in fundamental aspects of your training program that can result in more serious problems in other areas should training not be effective in preparing your staff for the tasks at hand. You are requested to provide a written response to these findings within 30 days, in accordance with the instruction provided in the enclosed Notice of Finding.

Details of the inspection, including the findings, are documented in the enclosed inspection report (Enclosure 2).

The results of our inspection revealed that you have done a good job recruiting well-qualified staff to perform the work necessary to complete the design phase of your Contract. In addition, the efforts of your quality assurance organization to assess your qualification and training program prior to our inspection were noteworthy and contributed to your state of readiness for the inspection. However, your training and qualification program was not completely implemented and management attention is needed to improve the effectiveness of this program. For example, training program management and staff have not been permanently established, and identification and refinement of management expectations were needed to ensure that training fully serves the employees' needs.

M. J. Bullock
99-RU-0213

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Nothing in this letter should be construed as changing the Contract (DE-AC06-96RL13308). If you have any questions regarding this inspection, please contact me or Pat Carier of my staff on (509) 376-3574.

Sincerely,

D. Clark Gibbs, Regulatory Official
Office of Radiological, Nuclear, and
Process Safety Regulation

RNP:JWM

Enclosures

cc w/encls:
D. W. Edwards, BNFL

NOTICE OF FINDING

Standard 4, "Safety, Health, and Environmental Program," of Contract DE-AC06-RL13308, dated August 24, 1998, between BNFL Inc. (the contractor) and the Department of Energy, defines the contractor's responsibilities under the Contract as they relate to conventional non-radiological worker safety and health; radiological, nuclear and process safety; and environmental protection.

Standard 4, Section c.2)(b) requires the contractor to comply with the specific nuclear regulations defined in the effective rules of the 10 CFR 800 series of nuclear requirements.

Title 10 of the Code of Federal Regulations Part 830, Nuclear Safety Management, Section 120, Quality Assurance Requirements, requires the contractor to conduct work in accordance with the requirements of the Section 120 and to develop a Quality Assurance Program that reflects the requirements of Section 120.

1. Section 2.2 and 2.3 of the contractor's Quality Assurance Program and Implementation Plan (QAPIP) Revision 4, dated May 1998, required that specific training shall be planned, scheduled, provided, and maintained for personnel in their respective technical disciplines and that line managers were to establish personnel training requirements based upon position descriptions and specific work assignments.

Contrary to the above, during the week of March 1-4, 1999, the inspectors found that the Training and Development Plan and implementing procedures did not provide guidance or afford a mechanism for line managers to specify position specific training. In addition, from interviews with line management and review of employee training profile records, position specific training was not consistently being specified or documented as being performed in training records.

This is considered an inspection finding.

2. Section 2.2 of the QAPIP required that training shall be presented by a qualified instructor who possesses the technical and instructional skills needed to accomplish instructional assignments in an effective manner.

Section 3.3 of the contractor's Training and Development Plan required that the Training Specialist assure that the trainers were competent on the basis of previous documented experience in their area of instruction, successful completion of a train-the-trainer program specific to the topics they will teach, and/or an evaluation of instructional competence.

Contrary to the above, during the week of March 1-4, 1999, instructors who provided "TWRS-Privatization Integrated Management System (Overview)" and "TWRS-P

Project Quality Assurance Program Orientation” training were not deemed competent trainers by the Training Specialist.

This is considered an inspection finding.

3. Section 2.2 of the QAPIP required that orientation of project personnel on the Quality Assurance Plan shall be provided to the project personnel performing activities affecting quality and that the training provide a complete understanding of quality program principles and policies, the application of quality elements into the project work processes, and each individual’s role in the quality program and responsibilities for the quality of their work.

Section 3.2 of the QAPIP requires that project personnel be informed during initial indoctrination and training of the obligation to identify nonconforming conditions or services in the areas subject to the Quality Assurance Program

Contrary to the above, TWRS-P Project Quality Assurance Orientation Training, performed during the week of March 1-4, 1999, did not fulfill the requirements of the QAPIP in that the class did not make any specific reference to the QAPIP, or provide any details for principles contained therein such as “Graded Approach.” Also, the students were not informed of their obligation to identify nonconforming conditions or services in the areas subject to the QAPIP.

This is considered an inspection finding.

The contractor is requested to provide to the Regulatory Unit within 30 days of the date of the cover letter that transmitted this Notice, a reply to each of the findings described above. The reply should include for each finding: (1) admission or denial of the alleged finding, (2) the reason for the finding, if admitted, and if denied, the reason why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further findings, and (5) the date when full compliance with the applicable commitments in your authorization base will be achieved. Where good cause is shown, consideration will be given to extending the requested response time.

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
Office of Radiological, Nuclear, and Process Safety Regulation
of the TWRS-P Contractor

INSPECTION: PERSONNEL TRAINING AND QUALIFICATION

REPORT NO: IR-99-001

FACILITY: BNFL Inc.

LOCATION: 2940 George Washington Way
Richland, Washington 99352

DATES: March 1-4, 1999

INSPECTORS: J. McCormick-Barger (Lead), Senior Regulatory Technical Advisor
N. Hunemuller, Senior Regulatory Technical Advisor
J. Adams, Senior Regulatory Technical Advisor

APPROVED BY: Pat Carier, Verification and Confirmation Official
Office of Radiological, Nuclear, and Process Safety Regulation

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EXECUTIVE SUMMARY
Personnel Training and Qualification Assessment
Inspection Report Number IR-99-001

INTRODUCTION

This inspection of the BNFL Inc. (the contractor) Personnel Training and Qualification Program covered the following specific areas:

- Policies and Procedures used for Selection of Staff (Section 1.2)
- Qualifications of Staff (Section 1.3)
- Policies and Procedures used for Establishing Training Requirements (Section 1.4)
- Implementation of the Staff Training Program (Section 1.5)
- Training and Qualification Program Self-Assessments (Section 1.6)
- Effectiveness of Training and Qualification Program (Section 1.7)

SIGNIFICANT OBSERVATIONS AND CONCLUSIONS

- The Training and Development (T&D) Plan and associated implementation procedures included the basic commitments contained in the authorization bases for selection of qualified staff to perform Quality Level (QL)-1 and QL-2 activities. (Section 1.2)
- The contractor was following its plan and procedures for selecting qualified individuals to fill technical positions. Personnel were well qualified and generally met or exceeded minimum qualification requirements specified in the applicable position descriptions. Records for personnel that did not meet minimum educational requirements contained justification for hiring the personnel based on related work experience. (Section 1.3)
- The T&D Plan included elements of a systems approach to training but lacked a specific method for obtaining line management (first line supervisors) input for position specific training requirements as required by the Quality Assurance Program and Implementation Plan (QAPIP). This was considered a Finding. (Section 1.4)
- Appendix 2 of the T&D Plan included core training requirements and generic safety and quality design required training as determined by project senior management; however, the Plan did not provide guidance for revising these requirements. This was considered a weakness. (Section 1.4)
- The QAPIP orientation training for project personnel did not fulfill the requirements of Section 2.2 or Section 3.2 of the QAPIP. The training did not provide an adequate overview of the QAPIP nor inform project personnel of their obligation to identify nonconforming conditions or services in the areas subject to the QAPIP. This was considered a Finding. (Section 1.5)

- Contrary to QAPIP requirements, for the two classes conducted during the inspection, the instructors had not been deemed competent (as instructors) by the former Training Specialist based on documented instructional experience, completion of a “train-the-trainer” program, or a successful evaluation of their instructional competence. This was considered a Finding. (Section 1.5)
- The Project Document Overview class lacked a discussion of objectives, slides were hard to read, and the presentation was difficult to follow. This class indicated that additional training department scrutiny of class training might be warranted. This was considered a weakness. (Section 1.5)
- The Training and Qualification Surveillance Report provided a substantial assessment of the contractor’s compliance with the commitments in the authorization basis. The contractor completed a number of important actions, which appeared to have addressed many of the surveillance findings identified. However, the surveillance findings remained open pending quality assurance staff review of the corrective actions taken. Also, the surveillance lacked performance-based elements such as observing training classes in progress. (Section 1.6)
- The employee-training program was evolving. Contractor staff indicated that training adequately served their needs for this early stage of the project. However, it was not clear that the staff understood the importance and use of the authorization basis or the application of the Quality Assurance Program to their specific work assignments. Continued management attention is needed in this area in identifying and refining management expectations to improve the effectiveness of the training program. This was particularly important in light of the pending move of the training program to Human Resources and resulting change of training program management and the need to select a Training Specialist. (Section 1.7)

PERSONNEL TRAINING AND QUALIFICATION INSPECTION

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PERSONNEL TRAINING AND QUALIFICATION INSPECTION REPORT

1.0 REPORT DETAILS

1.1 INTRODUCTION

The Tank Waste Remediation System Privatization (TWRS-P) project was in the early design stages (about 5% complete) at the time of this inspection. The contractor (BNFL) was actively in the process of hiring and training the staff to continue progress on the early design phase of the project.

In accordance with the TWRS-P Contract (Contract, DE-AC06-96RL13308 between DOE and BNFL, dated August 24, 1998) and specifically 10 CFR 830.120, *Quality Assurance Requirements*, the contractor was required to have trained and qualified personnel to ensure they are capable of performing their assigned work. This requirement was reflected in the contractor's authorization bases (such as, the Quality Assurance Program and Implementing Plan ((QAPIP) BNFL-5193-QAP-01, Rev.4) and Safety Requirements Document ((SRD) BNFL-5193-SRD-01, Rev. 2)). On February 25, 1999, the contractor issued the *TWRS Privatization Training and Development Plan - Design Confirmation Phase* (PL-W375-TR00001, Rev 1). In addition, in February 1999, the contractor issued implementing procedures for *Personnel Selection* (K21P010_0), and *Personnel Qualification* (K21P011_0). The contractor had previously issued, in November 1998, *Personnel Orientation and Training* (K20P009-0) and *Code of Practice for Training* (K20C009-0).

The inspectors reviewed the contractor's training and development plan and implementing procedures to determine if they complied with the commitments in the QAPIP and SRD. In addition, the inspectors assessed the implementation of the contractor's training and qualification program as it related to the design phase of the TWRS-P Contract to ensure that the contractor was following its plan and procedures and that Quality Level (QL)-1 and QL-2 functions were being properly conducted.

1.2 POLICIES AND PROCEDURES USED FOR SELECTION OF STAFF (INSPECTION TECHNICAL PROCEDURE (ITP) I-106)

1.2.1 Inspection Scope

The inspectors assessed the adequacy of the contractor's policies and procedures used to select staff to perform work associated with QL-1 and QL-2 activities. The inspectors reviewed the policy and procedures described in Section 1.1 above, against the contractor's commitments in the contractor's authorization bases.

1.2.2 Related Contractor Commitments

Section (c) (ii), *Personal Training and Qualification*, of 10 CFR 830.120, *Quality Assurance Requirements*, required that personnel be trained and qualified to ensure they are capable of performing their assigned work.

Section 2.2 of the contractor's QAPIP, stated that training and qualifications be commensurate with the scope, complexity, and nature of the activities performed and indoctrination and training programs be established and implemented, as appropriate. Section 2.2 and 2.3 goes on to define the requirements and responsibilities for the contractor's training and qualification program.

1.2.3 Observations and Assessments

The inspectors reviewed contractor staff qualification requirements contained in the Training and Development (T&D) Plan and the Personnel Selection implementing procedure by comparing the requirements against related commitments described in Section 2.2 and 2.3 of the QAPIP.

Section 2.2 and 2.3 of the QAPIP stated that the contractor will hire employees with the proper educational background (formal degrees, diplomas, and/or years of experience) to fit established positions. The QAPIP also stated that minimum education and experience would be verified, or, when minimum education and experience cannot be verified, documented justification would be provided for the personnel assignment. In addition, the QAPIP stated that personnel selected to perform work would have the experience and ability to provide the necessary quality performance as defined by the position description.

The requirements stated above were properly reflected in the T&D Plan and applicable implementing procedures. Section 1 of the plan stated that management hires people who are qualified by education, training, and experience to fill established position. The personnel selection procedure provided detailed requirements for determining position qualification requirements, verifying candidates' minimum requirements, and selecting qualified personnel. The Employee Selection form, attached to the Personnel Selection implementing procedure, contained a statement to document justification for selecting individuals that did not meet minimum education and experience requirements.

1.2.4 Conclusions

The inspectors found that, for the current design phase, the contractor's plan and procedures contained the basic requirements described in Section 1.2.2 above, for selection of qualified staff to perform QL-1 and QL-2 activities.

1.3 **QUALIFICATIONS OF STAFF (ITP I-106)**

1.3.1 Inspection Scope

In order to assess the contractor's implementation of its program for selecting qualified staff to perform QL-1 and QL-2 activities, the inspectors interviewed the Manager of Employment and

Employee Relations and a human resources (HR) specialist responsible for processing staff requisitions. In addition, the inspectors interviewed selected line managers responsible for establishing minimum position requirements and making personnel selections. The inspectors also randomly selected from an organization chart, names of technical staff and managers to determine if the related records indicated that the personnel met the minimum requirements listed in the position descriptions or otherwise contained adequate justification for selections.

1.3.2 Related Contractor Commitments

See Section 1.2.2 for a list of related contractor commitments.

1.3.3 Observations and Assessments

From interviews with the Manager of Employment and Employee Relations and the HR specialist, the inspectors were informed that after line managers determined the need and qualification requirements for personnel, HR either assisted line management in the development of a position description (PD) or obtained a standard PD previously approved by the corporate office. The inspectors were informed that several positions at the level of a line manager or above required the development of unique PDs that subsequently had to be sent to the corporate office for review and approval. For staff level positions, typically standard PDs were used that had already been approved by the corporate office. Technical positions typically required technical degrees and several years of related work experience. The inspectors were also informed that line managers often provided supplemental qualification requirements for technical positions that were in addition to the minimum requirements listed on the PD. These additional requirements were used to aid HR in screening applications.

The Manager of Employment and Employee Relations stated that verification of education and experience provided by applicants on resumes or job applications were performed by a subcontractor. Records of verifications were maintained at the contractor's corporate office.

Interviews with selected line managers supported information provided by HR. Line managers who were involved with personnel selection stated that they provided to HR information to be used to develop PDs and subsequently were provided the PDs for review prior to them being sent to the corporate office for approval. Line managers acknowledged that many of the PDs were standard pre-approved documents that contained only a generic description of the duties and responsibilities for the technical positions. Line managers consistently stated that they also provided supplemental qualification requirements to HR to aid HR staff in providing well-qualified candidates to management for their consideration.

From a contractor organization chart, the inspectors randomly selected and reviewed approximately 20 personnel files of technical employees recently hired by the contractor. With few exceptions, the inspectors determined that the employees met or exceeded the minimum qualification requirements listed on the PDs. For the few employees that did not meet minimum educational requirements, justifications were stated on the Employee Selection forms. For all exceptions reviewed, justifications were in the form of hand written notes indicating that the employees' related technical experience sufficed for lack of the required education.

1.3.4 Conclusions

The inspectors determined that the contractor was following its plan and procedures for selecting qualified individuals to fill technical positions. From a review of selected personnel files, the inspectors concluded that personnel were well qualified and generally met or exceeded minimum qualification requirements specified in the applicable PDs. Records for personnel that did not meet minimum educational requirements contained justification for hiring the personnel based on related work experience.

1.4 **POLICIES AND PROCEDURES USED FOR ESTABLISHING TRAINING REQUIREMENTS (ITP I-106)**

1.4.1 Inspection Scope

The inspectors assessed the plan and procedures described below that established the contractor's training plan and employee training needs. The inspectors examined and focused on the contractor's establishment of a training program that would ensure that personnel are properly trained to perform their assigned work.

Specifically, the inspectors assessed the following BNFL, Inc. documents:

“TWRS Privatization Training and Development Plan – Design Confirmation Phase,” (Plan),

“Personnel Orientation and Training,” (Procedure) and

“Code of Practice for Training,” (Code).

In addition, the inspectors reviewed the lesson plans for training modules:

0004-0001-01, “0004 (Safety Standards & Requirements),”

A1-A8-0001-01, “A1-A8 (Project Doc. Overview),”

AB-0001-01, “Authorization Basis,”

ALARA-0001-01, “ALARA,”

Enviro-0001-01, “Environmental,” and

QAO-0001-01, “QA Orientation.”

1.4.2 Related Contractor Commitments

Table 1-2 of the QAPIP stated that training goals, lesson plans, and other training materials would be developed, reviewed by subject matter experts, and approved by management.

Section 2.2 of the QAPIP stated that specific technical training would be planned, scheduled, provided, and maintained for personnel in their respective technical disciplines as defined by position descriptions and specific work assignments.

Section 2.3 of the QAPIP stated that line managers are responsible for establishing training requirements for project personnel based on the position descriptions.

Section 3.15 of the Integrated Safety Management Plan ((ISMP) BNFL-5193-ISP-01, Rev. 4) stated that each person is assessed on training needs, in conjunction with their line management and training personnel, and that training needs vary from individual to individual and are dependent on job type.

1.4.3 Observations and Assessments

The inspectors interviewed the Training Coordinator, the Pre-Operations Manager (presently responsible for the training program), the former Training Specialist (by telephone), the lesson plan developers for modules 0004-0001-01, AB-0001-01, ALARA-0001-01, and QAO-0001-01, and four other employees. The inspectors also reviewed a representative sample of “Employee Training Profiles” for employees from various levels and line organizations.

The inspectors observed that the Plan included the elements of a systems approach to training: identification of training needs, training design, development and delivery of training, and training evaluation. The results of an analysis of training needs for TWRS-Privatization personnel were included as Appendix 2 to the Plan. Project senior management performed the analysis. The resulting needs were divided into three categories, those training requirements that apply to (1) all project personnel, (2) safety and quality design personnel, and (3) managers of safety and quality design. The Plan stated that functional managers and line managers are responsible, with the assistance of the training department, for evaluating and establishing departmental training needs and establishing the minimum qualification requirements for all positions (training profiles). However, there was no specific guidance or method described in the Plan, Procedure, or Code for line managers (first line supervisors) to define and establish individual employee training requirements based upon position descriptions and specific work assignments.

The inspectors observed that the “Employee Training Profiles” recorded the required and completed training in accordance with Appendix 2 of the Plan. In some cases, the profiles also indicated that additional required reading had been assigned or completed. From the interviews, the inspectors learned that the additional reading requirements were not determined in a consistent manner. In some cases, procedure owners determined the additional requirements; in other cases, employees’ self-identified requirements; and in yet other cases employees, leads and supervisors together determined the needs. This was contrary to the Sections 2.2 and 2.3 of the QAPIP, which required that line managers establish personnel training requirements based upon position descriptions and specific work assignments. The failure of line management (first line supervisors) to consistently designate position-specific training requirements, based upon position descriptions, and specific work assignments was considered a Finding (IR-99-001-01-FIN).

With respect to the development, review, and approval of training materials, the inspectors observed that the Plan was developed by the former Training Specialist, checked by the Pre-Operations Manager, and approved by the Human Resources and Administration Manager. The inspectors observed that the lesson plans were developed by subject matter experts and approved by management. From the interviews, the inspectors determined that training goals, lesson plans, and other training materials were developed through the efforts of the former Training Specialist, subject matter experts, and functional and line managers working together. However, no documentation of these efforts was maintained; for example, there was no record that the Training Specialist had reviewed any of the training materials. The inspectors also observed that the Plan did not provide guidance for updating the core and design training requirements contained in Appendix 2 to the Plan. This was considered a weakness.

1.4.4 Conclusions

The inspectors found that the Training and Development Plan included the elements of a systems approach to training. However, one Finding was identified due to the failure of line management (first line supervisors) to consistently designate position-specific training requirements as required by the QAPIP.

One weakness was identified in that the Plan did not provide guidance for updating core and supplemental training required in Appendix 2 of the Plan.

1.5 IMPLEMENTATION OF THE STAFF TRAINING PROGRAM (ITP I-106)

1.5.1 Inspection Scope

The inspectors assessed the implementation of the contractor's staff training program. The inspectors focused on verifying that the contractor had implemented the staff training program during the design phase as it applies to staff accomplishing QL-1 and QL-2 work.

1.5.2 Related Contractor Commitments

Section 2.2 of the QAPIP stated the following:

- Orientation of project personnel on the QAPIP would be provided to the project personnel performing activities affecting quality early in the project by the TWRS-P Project QA Manager or designee.
- The orientation was to provide a complete understanding of quality program principles and policies, the application of quality elements into the project work processes, and each individual's role in the quality program and responsibilities for the quality of their work.
- Training would be defined concerning scope of the training and subject, presented by a qualified instructor, and documented with attendees' names and date, and records would be maintained. Training and certification records would be maintained in the project

records management system.

- Formal training, when required, would be provided by qualified instructors who possess the technical and instructional skills needed to accomplish instructional assignments in an effective manner.

Section 2.3 of the QAPIP stated that a training matrix would be maintained for tracking training of personnel and for determining the status of the training program.

Section 3.2 of the QAPIP stated that all project personnel have an obligation to identify nonconforming conditions or services in the areas subject to the QAPIP. Project personnel would be informed of this obligation as part of their initial indoctrination and training.

Section 3.3 of the T&D Plan stated that the Training Specialist was to deem trainers competent on the basis of previous documented experience in their area of instruction, successful completion of a “train-the-trainer” program specific to the topics they will teach, and/or an evaluation of instructional competence.

1.5.3 Observations and Assessments

The inspectors identified, as stated in Section 1.4 of this inspection report, that the Plan included the elements of a systems approach to training. The inspectors determined that implementation of these elements had begun but that the training program was still in the beginning stages and had yet to be fully implemented.

The inspectors reviewed a representative sample of “Employee Training Profiles” for employees from various levels and line organizations and observed that training was recorded, defined in subject and scope, and documented with attendees’ names and the date presented. The inspectors observed the training records database through its use to answer inspectors’ questions and through a brief demonstration. The inspectors determined that the database was capable of meeting the contractor’s requirements but that it was not yet fully customized. For example, at the time of the inspection, record management for position-specific training and career development training was still in the planning stages. Planned and completed training in accordance with Appendix 2 of the Plan was reflected in the “Employee Training Profiles.”

The inspectors attended two training sessions: Module A1-A8-0001-01, “TWRS-Privatization Integrated Management System (Overview),” (A1-A8), and Module QAO-0001-01, “TWRS-P Project Quality Assurance Program Orientation” (QAO). In both classes, attendance was recorded and the students were offered the opportunity to provide feedback via the feedback form, “TWRS-P Training Program Questionnaire.” The inspectors determined that this was the first time that the feedback form had been used.

The inspectors reviewed the training records of the two instructors and determined that neither instructor had been deemed competent as instructors by the former Training Specialist based on previous documented instructional experience, completion of a “train-the-trainer” program, or an evaluation of their instructional competence. The inspectors verified that other instructors who had not attended the contractor’s “train-the-trainer” program did have previous documented

instructional experience. In accordance with Section 2.2 of the QAPIP, formal training, when required, is provided by qualified instructors who possess the technical and instructional skills needed to accomplish instructional assignments in an effective manner. In accordance with Section 3.3 of the T&D Plan, the Training Specialist was required to assure that the trainers were competent on the basis of previous documented experience in their area of instruction, successful completion of a “train-the-trainer” program specific to the topics they teach, and/or an evaluation of instructional competence. Failure to assure that the instructors were competent trainers was considered a Finding (IR-99-001-02-FIN).

With respect to the A1-A8 class, the inspectors observed that learning objectives were not presented to the students; several of the visual aids were too detailed to be of use to the students; two of these aids were not in the student handout; and there was no evaluation of student comprehension. The inspectors found the presentation difficult to follow. This class indicated that additional training department scrutiny of class training might be warranted. This was considered a weakness.

With respect to the QAO class, the inspectors observed that the learning objectives were presented, the visual aids were legible, and the presentation was easy to follow, but there was no evaluation of student comprehension. The inspectors determined that the content of the QAO class provided the student with an awareness of the Quality Assurance Program (QAP) rather than “a complete understanding . . .” as required by Section 2.2 of the QAPIP. For example, the QAO class did not make any specific reference to the QAPIP, or provide any details for principles contained therein such as “Graded Approach.” Also, the students were not informed, as required by Section 3.2 of the QAPIP, of their obligation to identify nonconforming conditions or services in the areas subject to the QAPIP. This was considered a Finding (IR-99-001-03-FIN).

1.5.4 Conclusions

Two Findings were identified. The inspectors found that training was not being provided by qualified instructors as required by Section 2.2 of the QAPIP and that the orientation of project personnel on the QAPIP did not fulfill the requirements of Section 2.2 and 3.2 of the QAPIP. In addition, a weakness was identified in that the Project Document Overview class lacked a discussion of objectives, slides were hard to read, and the presentation was difficult to follow. This class indicated that additional training department scrutiny of class training might be warranted.

1.6 TRAINING AND QUALIFICATION PROGRAM SELF-ASSESSMENTS (ITP I-106)

1.6.1 Inspection Scope

The inspectors reviewed the contractor’s TWRS-P Training and Qualification Surveillance Report (Reference Number 001714). The surveillance was performed during the weeks of December 14 and 21, 1998. The report was issued on February 16, 1999.

1.6.2 Related Contractor Commitments

Section 2.3 of the contractor's QAPIP requires the TWRS-P Project Quality Assurance (QA) Manager to periodically (at least annually) assess the status and effectiveness of the indoctrination and training programs to ensure that they continue to reflect the current systems, procedures, and policies applicable to each position.

1.6.3 Observations and Assessments

Prior to the inspection, the inspectors were provided a copy of the TWRS-P Training and Qualification Surveillance Report. Although the surveillance was conducted in mid-December 1998, the report had not been issued until mid-February 1999. Because of the delayed issuance of the surveillance report, the contractor's documented corrective actions to the 26 findings were not available prior to the beginning of the inspection. As a result, prior to the inspection, the inspection team requested that at the entrance meeting the contractor provide a brief overview of the contractor's proposed corrective actions including actions already taken for each of the findings.

The report contained cryptic descriptions of the surveillance performed, the surveillance summary, the 26 findings (typically one-sentence description), and the 11 observations. The report concluded that the contractor's documentation and implementation of the training and qualification program was unsatisfactory.

Major findings of the surveillance were that the Training and Development Plan and associated implementation procedures were not in place. As a result, many of the commitments stated in the QAPIP, SRD, and ISMP were not formally in place, which resulted in additional findings. The contractor stated that issuance of the Training and Development Plan and implementing procedures were expected to address many of the findings. In addition, a number of the findings were based on commitments in the Initial Safety Analyses Report (ISAR). Management took exception to some of these findings based on the position that the commitments were applicable during the operations phase rather than the design phase.

Although this surveillance was compliance based with no apparent performance based elements, such as observing training in progress, it identified several issues that required immediate management attention. By the time of this inspection, several of the more significant findings had been addressed. However, the findings remained open pending QA verification of the corrective actions.

1.6.4 Conclusions

The Training and Qualification Surveillance Report provided a substantial assessment of the contractor's compliance with the commitments in the authorization basis. Following completion of the surveillance, the contractor completed a number of important actions that appeared to have addressed many of the surveillance findings identified. In addition, management provided its position that a number of the findings were based on commitments that were not applicable during the design phase. Since corrective actions for the findings had not been formally transmitted to the QA department and/or reviewed by QA, the findings remained open at the end

of the inspection. The surveillance was compliance based and did not include performance-based elements, such as observing training classes in progress.

1.7 EFFECTIVENESS OF TRAINING AND QUALIFICATION PROGRAM (ITP I-106)

1.7.1 Inspection Scope

The inspectors assessed the effectiveness of the contractor's training and qualification program. The inspectors focussed on verifying that the program was effective in providing appropriately trained and qualified staff to accomplish QL-1 and QL-2 work.

1.7.2 Related Contractor Commitments

Safety Criterion 7.3-3 of the SRD stated that personnel would be trained and qualified to ensure they are capable of performing their assigned work. The implementing standard for this requirement was ISMP, Section 3.15, "Training and Qualification."

Section 3.15 of the ISMP stated that the training being given would be appropriate for the task and effective (i.e., individuals would learn from the training).

Table 1-2 of the QAPIP stated that training would provide knowledge of the correct processes and methods to accomplish assigned tasks.

Table 1-2 of the QAPIP stated that training effectiveness would be monitored and worker performance would be evaluated to ensure that the training program conveys all required knowledge and skills.

1.7.3 Observations and Assessments

As stated in Section 1.3 of this report, the inspectors concluded that the contractor had hired well-qualified staff. Employees interviewed indicated that they believed that the training provided was adequate and useful, and that the detail was about right for the present stage of the project. The inspectors observed that the elements of a systematic approach to training were applied in a graded manner with recognition that more review and opportunity for correction exists in the early stage of design than will be the case, for example, during production operations.

The inspectors learned through the entrance meeting and interviews that the organizational responsibility for the training program was in the process of being changed from Operations to Human Resources. The Pre-Operations Manager had interim responsibility for the training program. The Manager of Employment and Employee Relations was indicated as the most likely position in Human Resources to take over responsibility for the training program. Also, the Training Specialist position had been temporarily filled to initially establish the training program, but was vacant at the time of the inspection and the vacancy was announced on February 28, 1999. Detailed management expectations for the training program were yet to be

identified and refined by a cooperative effort between senior project management, the Manager of Employment and Employee Relations, and the future Training Specialist.

The inspectors observed that, until recently, the contractor had not used student feedback forms. Training was being revised primarily based on changes to procedures but not on records of feedback. During interviews, a lesson plan developer and a Lead engineer indicated that they would have liked feedback reports to improve training effectiveness. Student feedback had been received informally through verbal discussions and had resulted in some training program changes. For example, employees were reading procedures that they weren't using, but informal feedback resulted in an effort to make required reading assignments more applicable to the present stage of the project. Management, training staff, and a lesson plan developer indicated a preference to move to more computer-based training. However, two employees interviewed indicated that they found classroom training more valuable. The inspectors determined that increased management attention to the feedback process may be warranted to ensure that, in accordance with ISMP, Section 3.15, "The training being given is appropriate for the task and effective (i.e., individuals learn from the training)."

The inspectors observed that employees and management consistently stated during interviews that training effectiveness was based on observation of work and evaluation of products that employees submit. However, the inspectors also determined that, presently, there was no TWRS-P Project-specific mechanism for employee evaluations, but that such a mechanism was planned to be established before the end of the year. Presently, employees are appraised in accordance with their individual company processes. Management self-assessments and Quality Assurance audits were also mentioned as means for monitoring training effectiveness.

The inspectors observed, based upon employee interviews, that increased management attention may be warranted to assure that employees are learning from the training given and that the training conveys required knowledge. For example, the definition and application of the authorization basis and specific application of the Quality Assurance Program to the employees' work assignments appeared to be weak. Several employees stated that they would expect to find the standards applicable to their work in the Codes of Practice and that they would not need to refer to the authorization basis. The inspectors observed that the Codes of Practice, for example, K20C009_0, "Code of Practice for Training," may not incorporate authorization basis standards such as those contained in the SRD. Some employees indicated that their work assignments did not involve any explicit connection with quality assurance although the Quality Assurance Orientation training emphasized that employees are responsible for the quality of their own work.

1.7.4 Conclusions

The inspectors found that the employee-training program was evolving and may warrant additional management attention to improve training effectiveness. Contractor staff indicated that training adequately served their needs for this early stage of the project. However, it was not clear that the staff understood the importance and use of the authorization basis or the application of the Quality Assurance Program to their specific work assignments. In addition, challenges remain to improve the effectiveness of the training program, for example, training program management was changing, the training specialist position had not been filled, and identification

and refinement of management expectations were needed to ensure that training fully serves the employees' needs.

2.0 EXIT MEETING SUMMARY

The inspectors presented the inspection results to members of contractor management at an exit meeting on March 4, 1999. The contractor acknowledged the observations, conclusions, and findings presented.

The inspectors asked the contractor whether any materials examined during the inspection should be considered proprietary information. The only proprietary information identified had to do with personnel records, and none of that information is contained in this report.

3.0 REPORT BACKGROUND INFORMATION

3.1 PARTIAL LIST OF PERSONS CONTACTED

Ron Barrington, Manager, Project Controls and Administration
 Jan Hawkins, Manager, Human Resources – Project
 Mark Platt, Safety Program Lead
 Liesl Smith, Human Resources Representative II
 Gale Voyles, Quality Assurance Manager
 Dennis Kline, Safety and Regulatory Manager
 Don Sansotta, Employment & Employee Relations Manager
 Dale Lindsey, Pre-Operations Manager
 Leslie Kietzman, Training Coordinator
 Marsha Eades, (Inspection Liaison)
 Harry Moomey, Lead Balance-of-Plant, Safety Implementation Group
 Tino Maciuca, Lead Documents Certification
 Gail Kelley, former Training Specialist
 William Harrington, Sr. Radiological Engineer

3.2 LIST OF INSPECTION PROCEDURES USED

Inspection Technical Procedure I-106, "Personnel Training and Qualification Assessment"

3.3 LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

IR-99-001-01-FIN	Finding	Training Program lacked a specific method for obtaining line management input for position specific training requirements.
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IR-99-001-02-FIN	Finding	QAPIP orientation training for project personnel did not meet QAPIP requirements.
IR-99-001-03-FIN	Finding	Class instructors did not meet QAPIP requirements for conducting training.

Closed

None

3.4 LIST OF ACRONYMS

BNFL	BNFL Inc.
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
HR	Human Resources
ISAR	Initial Safety Analyses Report
ISMP	Integrated Safety Management Plan
ITP	Inspection Technical Procedure
PD	Position Description
QA	Quality Assurance
QAO	Quality Assurance Orientation
QAP	Quality Assurance Program
QAPIP	Quality Assurance Program and Implementation Plan
QL	Quality Level
RL	Richland Operations Office
RU	Regulatory Unit
SRD	Safety Requirements Document
T&D	Training and Development
TWRS-P	Tank Waste Remediation System Privatization

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